**Pre-Calculus**

* 1. **Notes**

**Day 4 & 5**

1. **The graph of function**

**Ex. 1:** Find…

1. Domain of f
2. f(-1)
3. f(2)
4. Range of f

**Ex. 2:** Use the Vertical Line Test (page 42)

1. b) c)
2. **Zeros of a function (x-intercept)**

**Ex. 3:** Find the zeros

1. f(x) = 3x2 + x – 10
2. g(x) =
3. h(t) =
4. **Increasing and decreasing functions**
5. A function f is increasing on an interval if \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
6. A function f is decreasing on an interval if \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
7. A function is constant on an interval if \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Ex. 4:** Describe the intervals as increasing or decreasing.

1. b) c)

**Relative Minimum:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Relative Maximum:** \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

**Ex. 5:** Approximate the relative minimum of f(x) = 3x2 – 4x – 2 using a calculator.

1. **Even and odd functions**

Even → f (-x) = f(x) → symmetric to y-axis

Odd → f (-x) = - f(x) → symmetric to origin

**Ex. 6:** Determine if each function is odd, even, or neither.

1. g(x) = x3 – x b) h(x) = x2 + 1